

09/630/57

# Abstract of the Disclosure

A flywheel system includes an annular rim mounted for high speed rotation on a flywheel hub. The hub has a radially splined exterior surface facing radially outwards. The rim includes an annular rim liner having an axis of rotation coinciding with the axis of rotation of the hub, and having an inner surface facing radially inward. The inner surface of the rim liner has integral splines projecting radially inward and extending axially. The rim liner splines mate with the hub splines. The flywheel rim liner has a modulus of elasticity  $e_l$ , and a density  $\rho_l$ , and a liner ratio  $R_l$  equal to  $E_l/\rho_l$ . The flywheel rim has a modulus of elasticity  $e_r$  in the hoop direction and a density  $\rho_r$ , and a rim ratio  $R_r$  equal to  $E_r/\rho_r$ . The materials and configuration of the rim and rim liner are designed so that  $R_l$  is less than or equal to  $R_r$ , so said flywheel rim liner grows radially with the rim.

09630457 073400